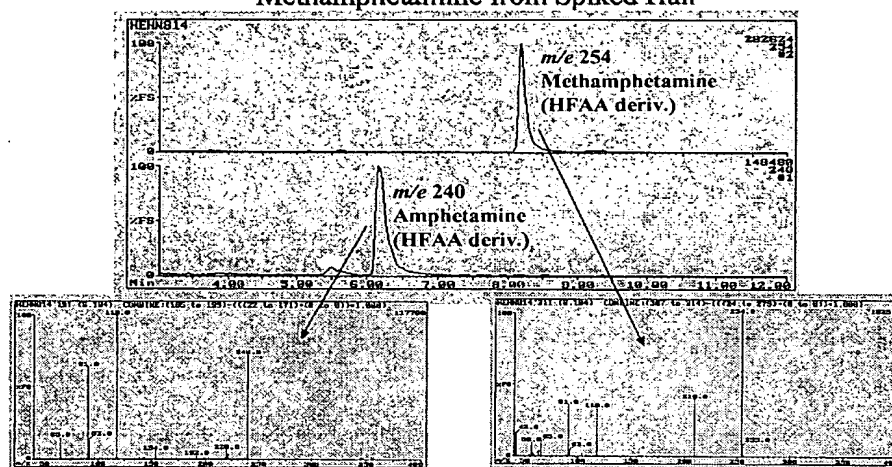


Figure 2: On-Line HFAA Derivatization/SFE of Amphetamine and Methamphetamine from Spiked Hair



Hair sample: 60 mg of negative control hair spiked with amphetamine and methamphetamine (1.8 µg each).

On-line derivatization/SFE conditions: 30 mL CO₂ + 100 µL HFAA/100 µL ethyl acetate; 400 atm, 100°C; 15 min static, 30 min dynamic extraction.

Pre-cleanup with pure CO₂: Hair was pre-extracted with pure CO₂ (400 atm, 50°C) prior to on-line derivatization in order to remove potential chromatographic interferences (i.e., surface waxes and oils).

Collection: SF extract was collected by bubbling SF effluent into ethyl acetate in a conical test tube. Final extract was concentrated under nitrogen to a volume of 50 µL and a 2 µL injection was made directly onto the GC-MS.

Figure 3: Esterification of a carboxyl group using pentafluoropropanol in the presence of an anhydride.

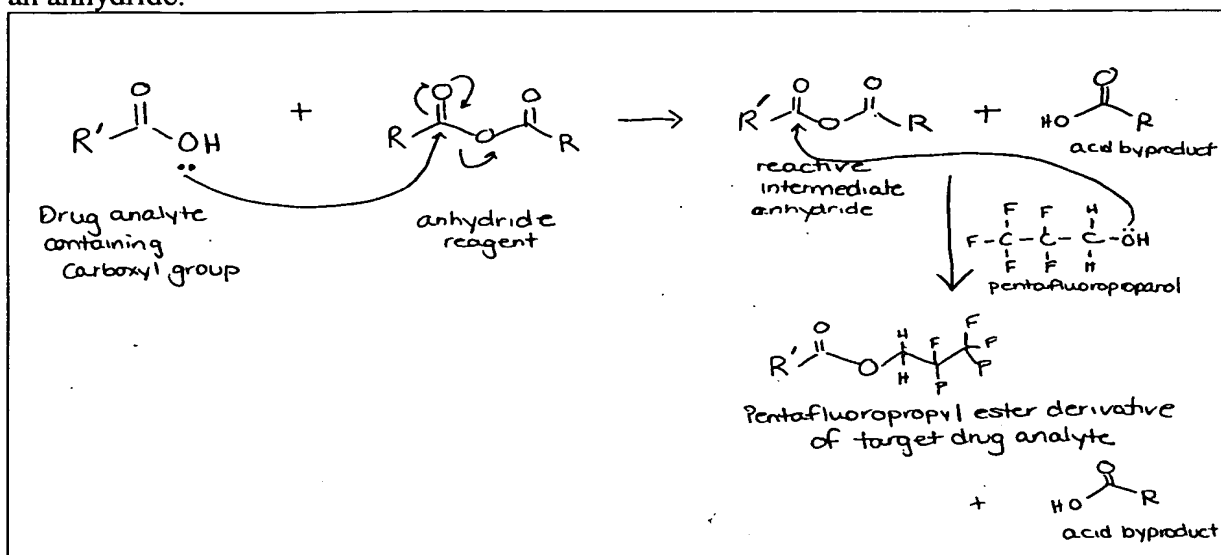


FIGURE 4

Comparison of DRS and NIST Results for a Hair Certified Reference (NIST SRM 2379)
SFE Performed on ISCO 3560; Extract quantification by GC-MS following HFAA Derivatization

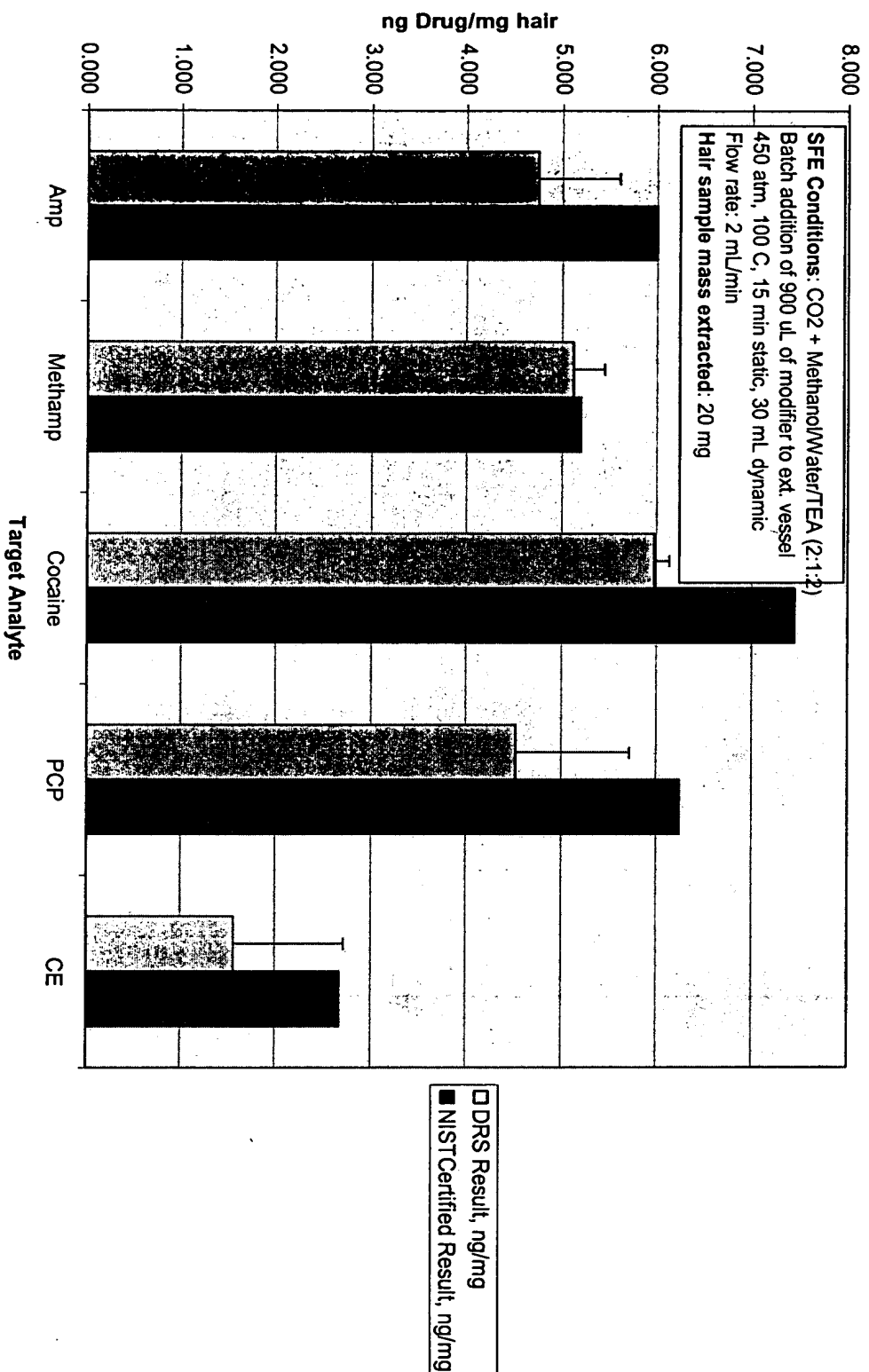


FIGURE 5

Comparison of DRS and NIST Results for a Hair Certified Reference (NIST SRM 2380)
SFE Performed on ISCO 3560; Extract quantification by GC-MS following HF-AA Derivatization

